



axxys[®] evolution

Fitting Instructions



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axxys® evolution is a contemporary range of stair balustrade designed to inspire.

As a modular system **axxys® evolution** provides the flexibility to blend components from across the range to create a stylish, bespoke staircase and a focal point for any living space. Clean lines and metallic details also allow **evolution** to make a modern statement within more classic, period environments.

axxys® evolution has been designed not only for its quality and style, but also for its simplicity to install. All components have been independently tested to conform to UK building regulations, are design registered and patent pending.

Cheshire Mouldings **axxys® evolution** stair balustrade is a UK and International Patent and Design Registration pending product, blending traditional turnings with modern materials. Hand and base rails are assembled using our unique metal brackets. Balusters are fixed into place using our patented fully adjustable baluster brackets which adjust between 90° and 45°, locking firmly into place when positioned into the Hand and Base rail profile. These components once assembled form an innovative balustrade solution that can be adjusted to suit any staircase pitch between 38° & 45°.

Please Note;

Cheshire Mouldings **axxys® evolution** is a factory pre finished system, therefore when handling and installing please take extra care in order to not damage the finish.

Please Check;

All components should be inspected BEFORE installation commences for any damage, as Cheshire Mouldings cannot be held responsible for any damage caused during installation.

axxys® evolution is designed for use in domestic situations and will fit most closed stair cases achieving minimum handrail heights of 900mm on the rake and 900mm on the landings. If your staircase is longer than 3.9m on the rake, you must install an Intermediate Newel Base, Newel Post & Handrail Connector in order to achieve the FIRA strength standards, instructions for this are on the following pages.

axxys® evolution is manufactured to precise tolerances, however please be aware that timber is a natural product and some distortion, expansion and sometimes shrinkage can occur.

If timber components (i.e. hand rails) are slightly oversize, gently sand or shave the timber until a tight fit is achieved, being careful to only sand/shave the part of the component that is going to be concealed by the metal or plastic connector.

If the timber component is slightly under size, the tolerance can be taken up by using a gap filling adhesive.

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Existing Newel Bases

Important;

All newel bases must be cut off squarely in order for the newel posts to sit perfectly level.

Sand if required to achieve correct level.

Once level they can be chamfered to improve the aesthetic.

Please also note that the newel connectors do not allow for any height adjustment, so newels must be set at the correct height to achieve building regulation standards.

axxys® evolution can be installed using the existing staircase newel bases.

If the existing newel bases are to be used, they must be positioned central to the stair string and front edge of the riser concerned, and must be a minimum of 81x81xmm square, if they measure less the sides will have to be built up using suitable material.

They must also have enough material once cut, to achieve the dimensions shown plus the baserail height (fig. 2 & 3).

Prior to cutting the newel bases down to the correct height, the **axxys® evolution** baserail must be temporarily fitted to the string.

First Lie the baserail on top of the tread nosings and push it up against the newel bases, then mark the vertical lines and cut achieving a good finish (fig. 1)

Rest the cut baserail on top of the string, temporarily fix it in place at this stage using tacks or double sided tape.

fig. 1

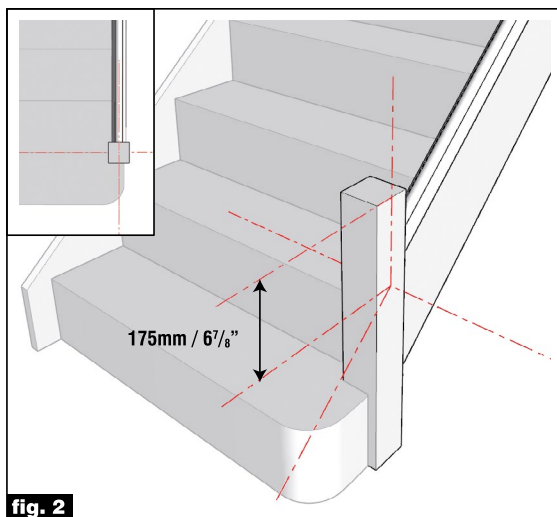
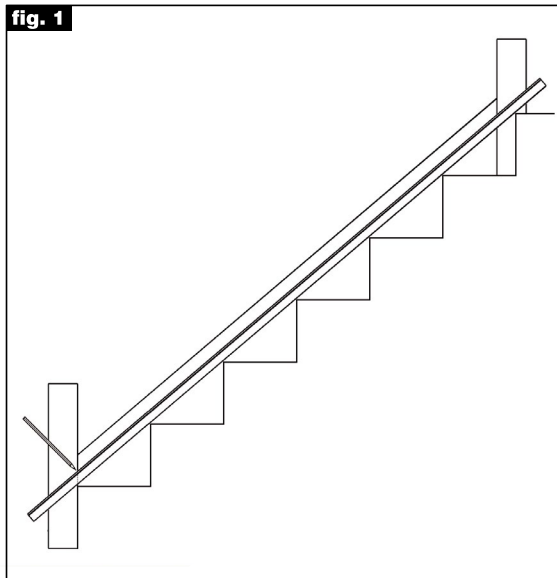


fig. 2

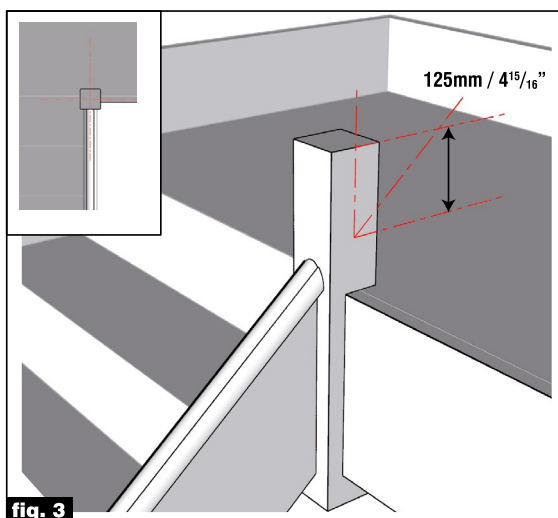


fig. 3

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New Newel Bases

Important;

Before removing any existing Newel Bases, please check to ensure they are non-structural.

If fitting new newel bases, they must be installed centrally to the stair string and front edge of the riser concerned (fig. 2 & 3).

Prior to fitting to the string, please follow the following instructions to cut down the newel bases to the correct height, ensuring you cut any excess from the bottom of the newel base.

Bottom Newel Base

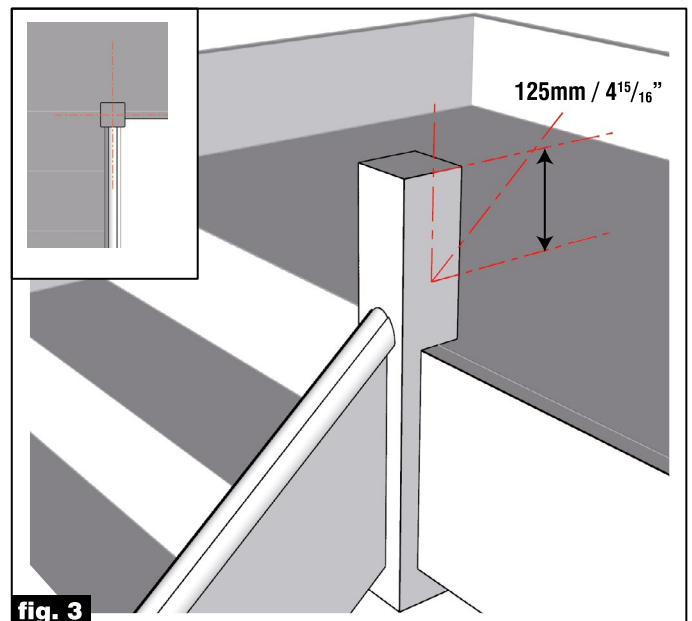
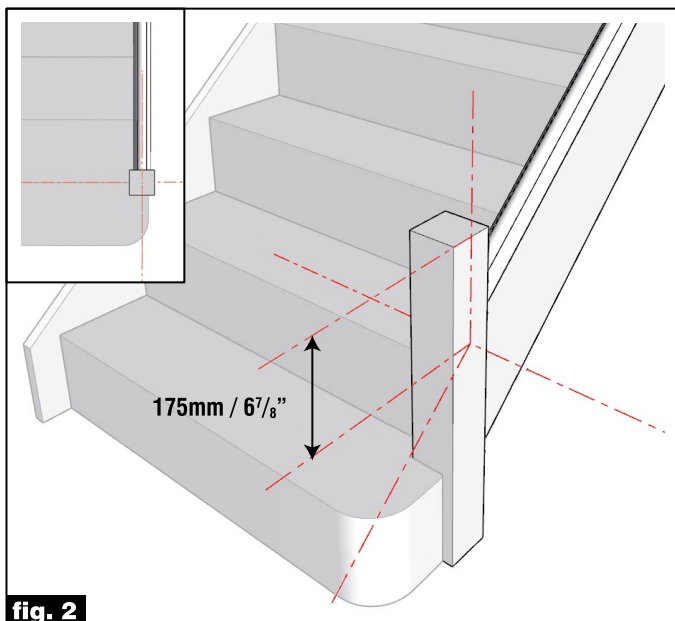
Using the top edge line of the baserail that you marked on the newel base prior to cutting, now draw a vertical line up through the centre point of the newel base, making sure to intersect the baserail line.

Now measure up 175mm from the intersecting point and mark a horizontal line (fig. 2).

Then finally measure the remaining distance to the top of the newel and remove this from the bottom of the newel.

Top Newel Base

The top newel base should be marked out and cut in the same way as the bottom newel base, however the 175mm dimension should be replaced with 125mm (fig. 3)



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Newel Posts & Base Collar

Important;

Before you start, slide the evolution newel post into the collar to make sure it fits snug.

If the newel is too tight, the spigot on the bottom of the newel must be eased so it slides into the collar, this is done by using sandpaper to reduce the taper on the spigot.

Please DO NOT try to force the newel post into the collar.

All drilling operations should be accurate, straight and level.

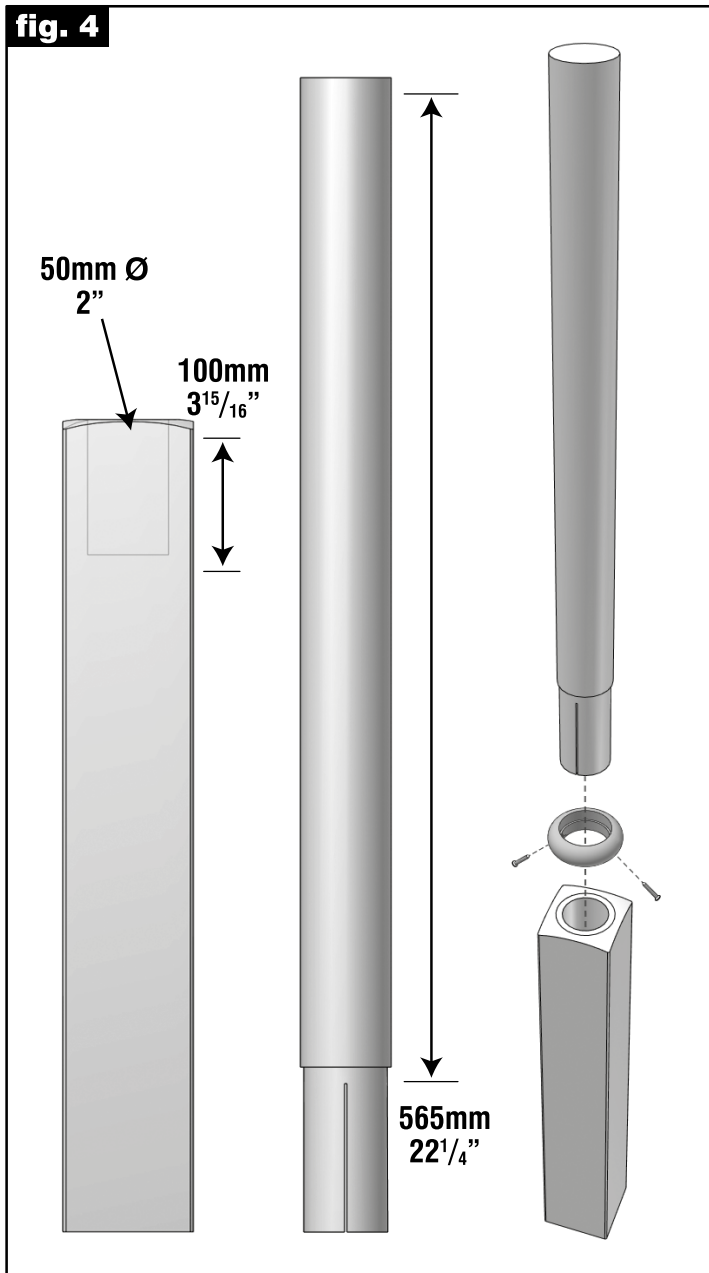
Newel Base Collar (AXEVBC) can now be fitted to the evolution newel, slide the collar onto the bottom spigot up to the stop, then pre drill and secure using fixings provided (fig. 4).

For existing bases only, find the centre of the newel base top by drawing diagonal lines from corner to corner and using the intersecting point, from the top and centre of the newel base, drill a hole 50mm diameter x 100mm deep (using our 50mm spur drill) to take the newel spigot (fig. 4).

Before inserting the newel post, mark and cut the newel to a length of 565mm measured from the top of the spigot.

Once cut to length insert the newel post making sure the collar meets with the newel base, secure using a gap filling adhesive (fig. 4).

Repeat this step for the top newel assembly, but the newel must be cut to 750mm to the top of the spigot.



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Handrail Length & End Brackets

Please Note;

The bottom newel adjustable End Bracket (AXEVEBC) is a three part assembly, consisting of a newel connector, a handrail connector and a handrail cap, with various fixing screws, bolts and washers.

It must be fitted with the angles in the same orientation as the rake of the stairs.

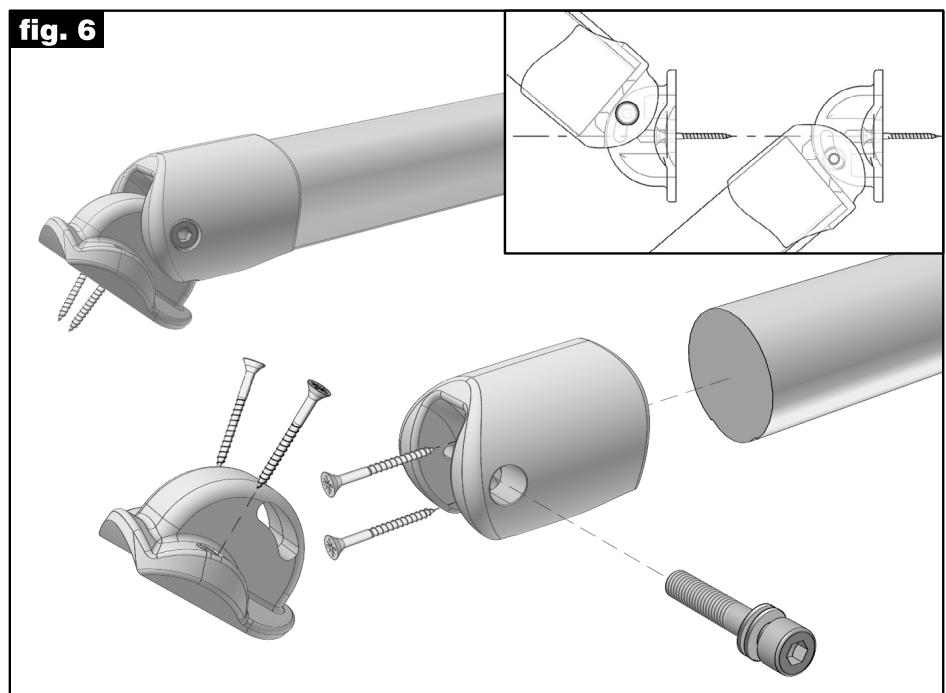
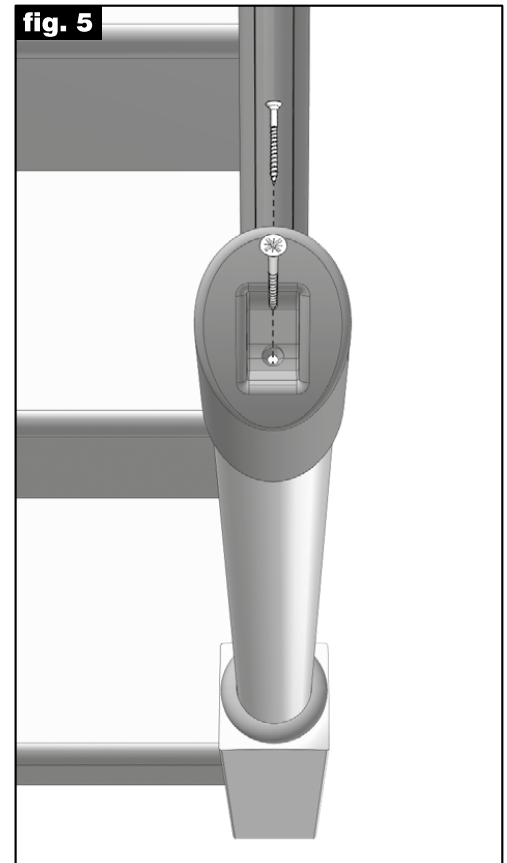
The following is a job best done by two people.

First you must fit the newel connector onto the top of the bottom newel and secure by pre drilling and using the two 30mm screws provided, remembering to align the connector with the handrail (fig. 5)

Now fit the top newel Round Handrail Connector (AXEVHR) to the handrail.

Slide the connector onto the handrail and secure using the two 30mm screws provided.

Now loosely assemble the remaining half of the bracket, using the bolt and two washers provided (fig. 6).



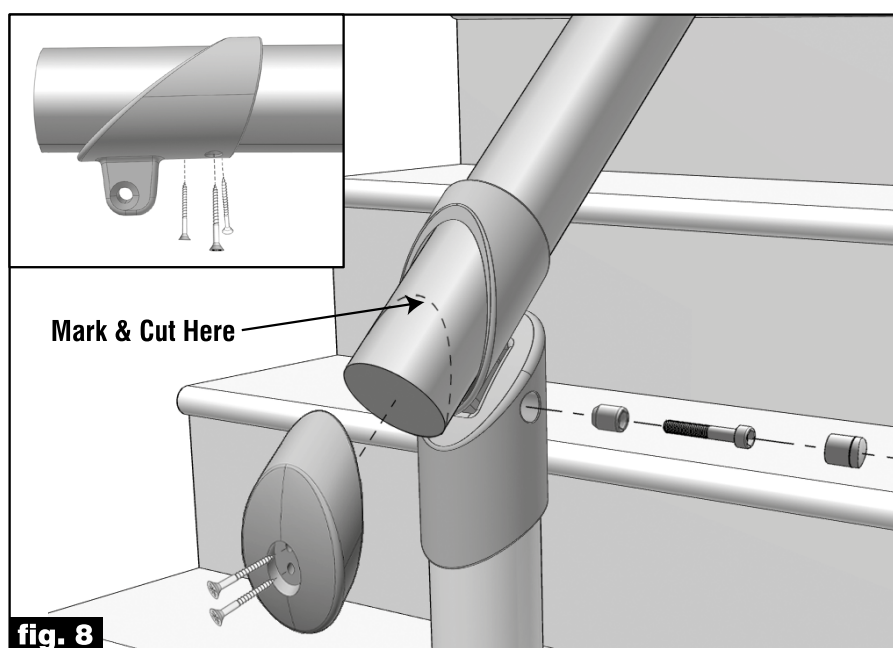
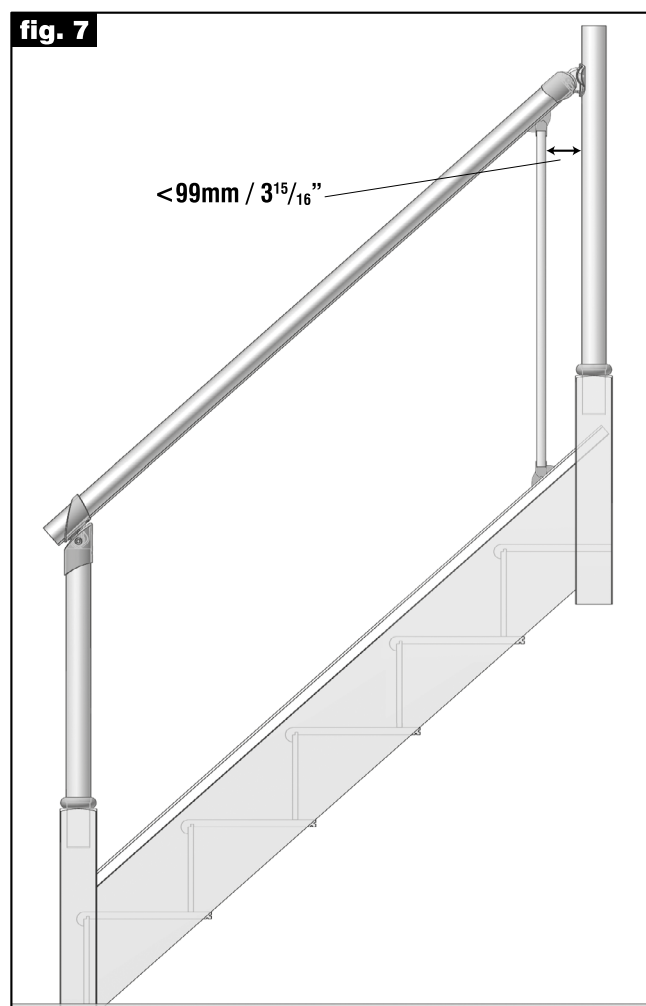
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Then with a pre-assembled spindle (instructions found on the following pages) secured onto the baserail no more than 99mm away from the newel, lay the handrail assembly onto the spindle to determine the height of where the bracket sits on the newel.

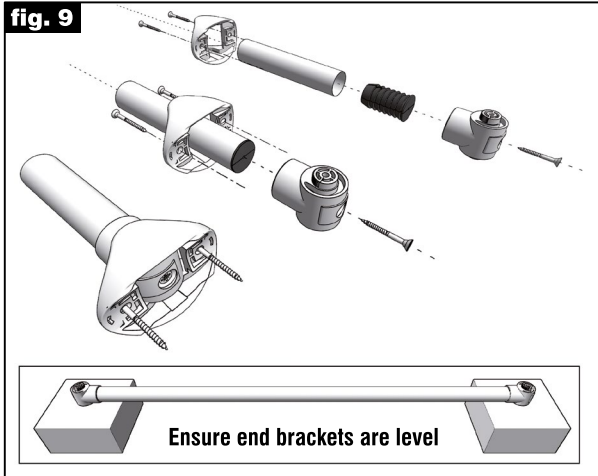
Secure using two 30mm screws provided (fig. 7)

Next slide the handrail connector onto & up the handrail until it drops into the newel connector and the bolt hole is perfectly aligned, you can now pre drill and secure the handrail connector in its position using the three 25mm screws provided. Then loosely fix the handrail connector into the newel connector using the 45mm bolt and spacer provided, making sure the chamfered end goes into the hole first. Finish off by inserting the cover cap (fig. 8).

With the handrail connector secure, cut the handrail at a 90° angle in line with the newel post, leaving 20mm protruding at the bottom of the handrail (*this can be altered to achieve a larger or smaller gap, 20mm will leave a 10mm gap*). You can now fit the end cap securing with two 30mm screws provided. (fig. 8).



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Baluster Assembly

Please Note;

When assembling the baluster brackets onto a baluster tube, remember to slide the baluster bracket covers onto the tube first followed by the tube bung and finally the baluster bracket, then lie each baluster bracket onto a separate piece of wood to ensure that they are both level/square with each other.

Now tighten the fixing screws prior to sliding the baluster bracket cover over the baluster bracket, the baluster assembly is now ready to be fixed on the hand/base rails (fig. 9).

All holes for fixing the baluster brackets should be pre-drilled.

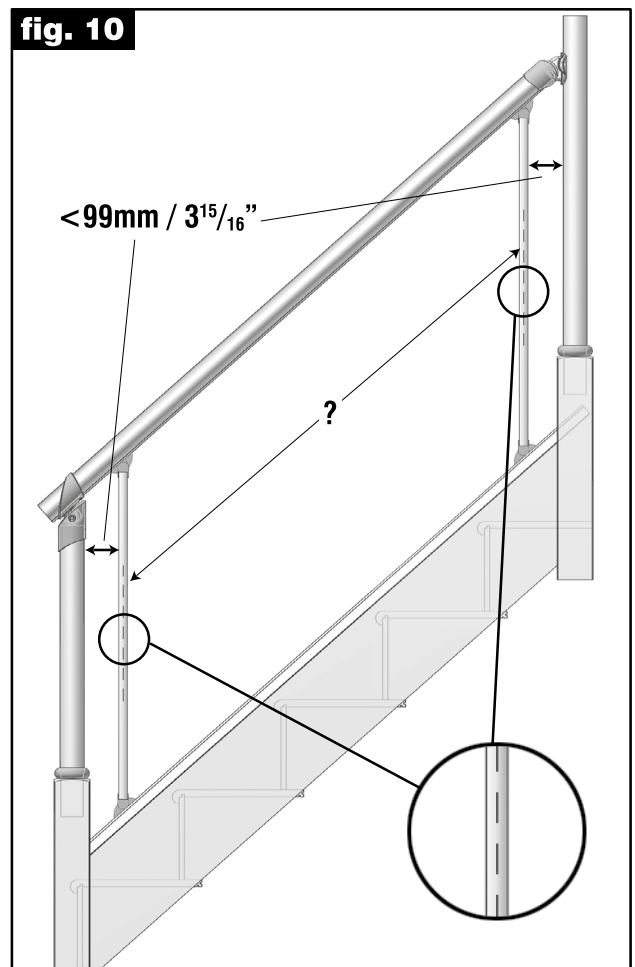
The bottom baluster should be fixed vertically no more than 99mm from the narrowest part of the newel post, in the same way as the top baluster was previously (fig. 10).

In order to space the remainder of the balusters evenly measure the distance in mm between the centre points of the 2 balusters already fitted and divide by 148.5.

Round the answer up to the next whole number and divide the whole number back into the original measurement and this will give you the exact spacing (fig. 10).

Example - 2264mm between centre points of balusters divided by 148.5mm = 15.25, rounded up to 16, then take the Evolutional measurement 2264mm divided by 16 = 141.5mm which is the exact spacing measurement.

Pre-drill all holes for the baluster brackets after marking their position on the hand rail and base rail, using the spacing measurement from the previous step.



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Top Newel Cap or Handrail Landing Connector

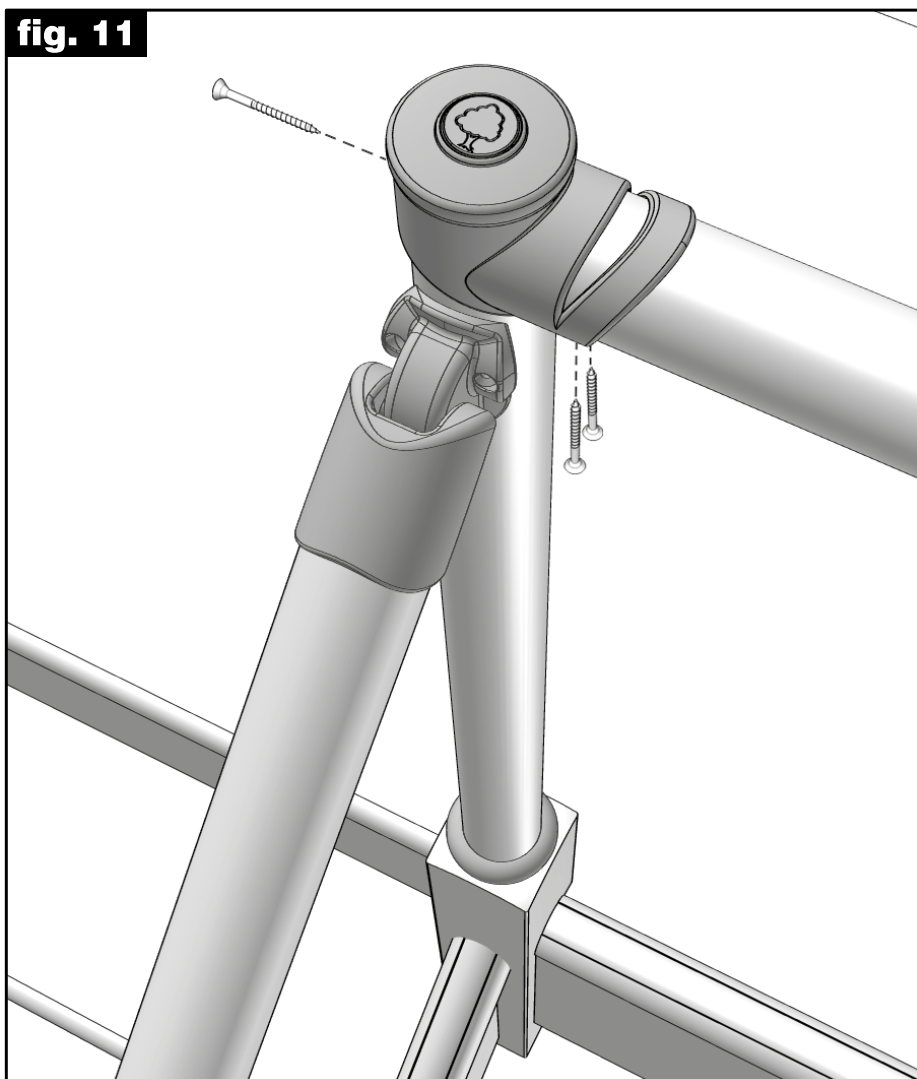
If your balustrade ends at the top of the stairs, then you can finish off the newel with our Newel Cap (AXEVNC).

However if you have balustrade coming off the top newel, typically at a 90° angle (for return landings please see instructions below), then you can use our Landing Handrail Connector (AXEVLHC).

To install the Landing Handrail Connector simply slide it onto the top newel and secure using the 30mm screw provided, making sure you have lined it up with your landing baserail.

It is now ready for you to insert the handrail and secure using the two 30mm screws provided (fig. 11).

The handrail can terminate to either a wall connector, or to another newel to handrail connector where there is a second flight of stairs.



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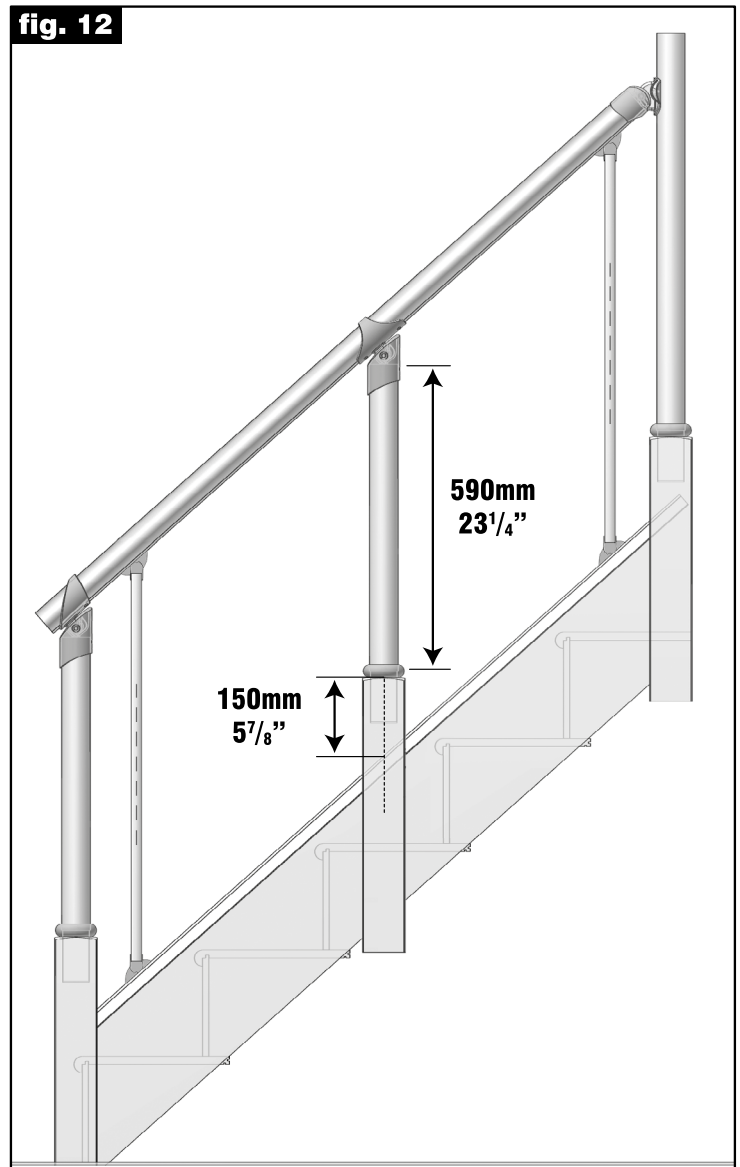
Intermediate Newel on the Rake

If your staircase is longer than 3.7m (measured between inside newel faces) then you will require an intermediate newel for added strength.

This will require an additional newel base to be installed at the same time as the top and bottom bases, the cut off point for the intermediate newel base is 150mm. The intermediate newel post must be cut to 590mm before fitting the collar and inserting it into the base.

Next fit the intermediate connector (AXEVIC) onto the top of the newel and secure with the two 30mm screws provided. Then slide the other half of the intermediate connector onto and up the handrail, once located into the newel connector, secure to the handrail by using the four 30mm screws provided.

Finally secure the connector assembly by inserting the 45mm bolt and spacer provided, making sure the chamfered end goes into the hole first. Finish off by inserting the cover cap into the bolt hole (fig. 12).



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90° Elbow for Return Landings

Please Note;

When using a combination of the 90° Elbow (AXLQT) and the Landing Handrail Connector (AXEVLHC) to form a return landing, the minimum distance you can achieve is 140mm from the centre of the staircase baserail to the centre of the landing baserail.

If you have a return landing, then our 90° Elbow (AXLQT) can be used to achieve this, in conjunction with a Landing Handrail Connector (AXEVLHC) and short piece of handrail.

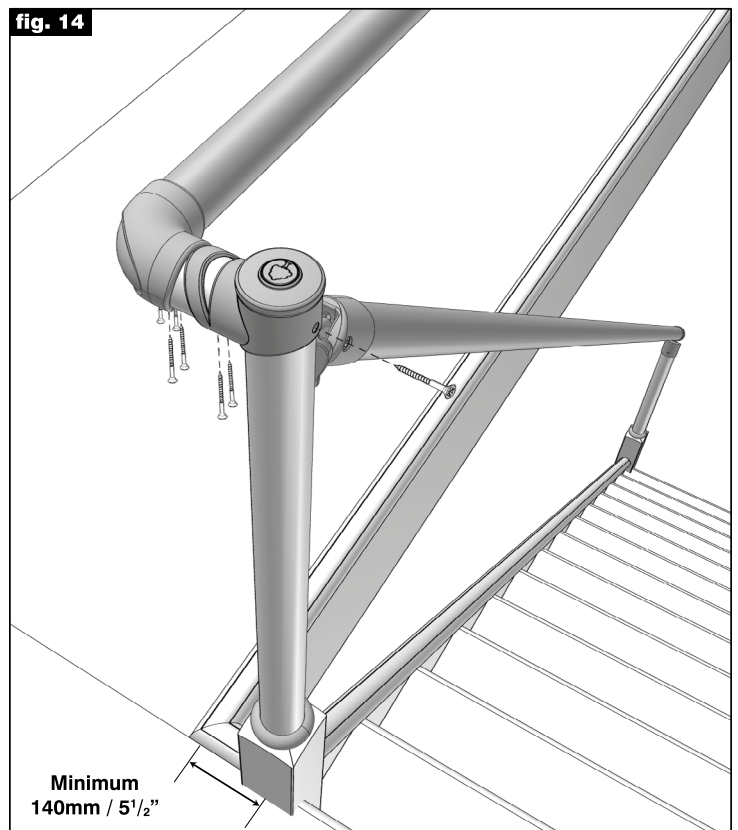
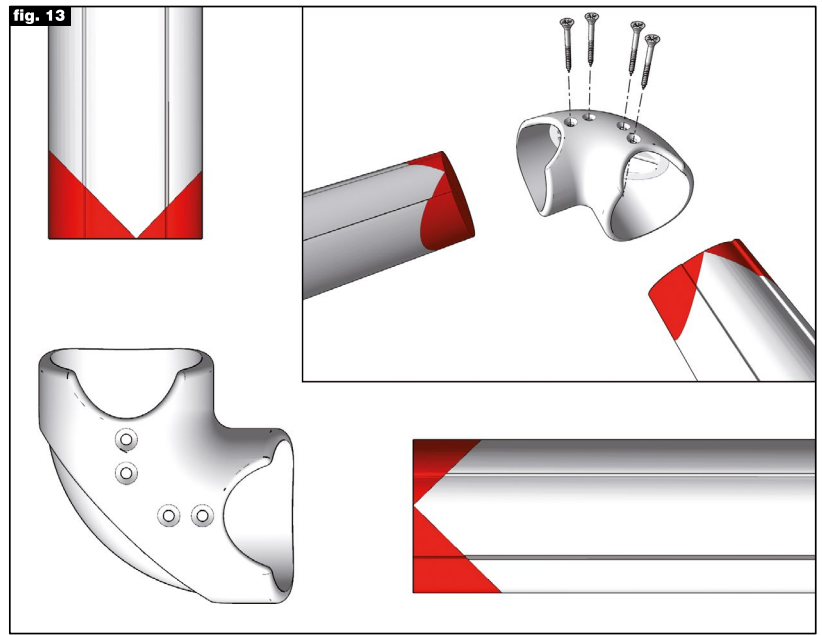
Simply mitre the handrails using the template supplied (found at the back of this booklet), slide them into the elbow from either side and check that the handrails pass the screw holes.

Then pre drill and secure the handrails using the four screws supplied and glue from underneath (fig. 13).

Lie the assembly on top of the baserail and behind the newel, then measure the cut off point for the short piece of handrail against the newel face, remembering to include the connector tolerance and to ensure the handrail is in line with the baserail.

Cut the handrail at the point you have just marked.

Now slide the short handrail end into the Landing Handrail Connector, and secure using the two 30mm screws provided. The completed assembly should look like the illustration to the left (fig. 14).



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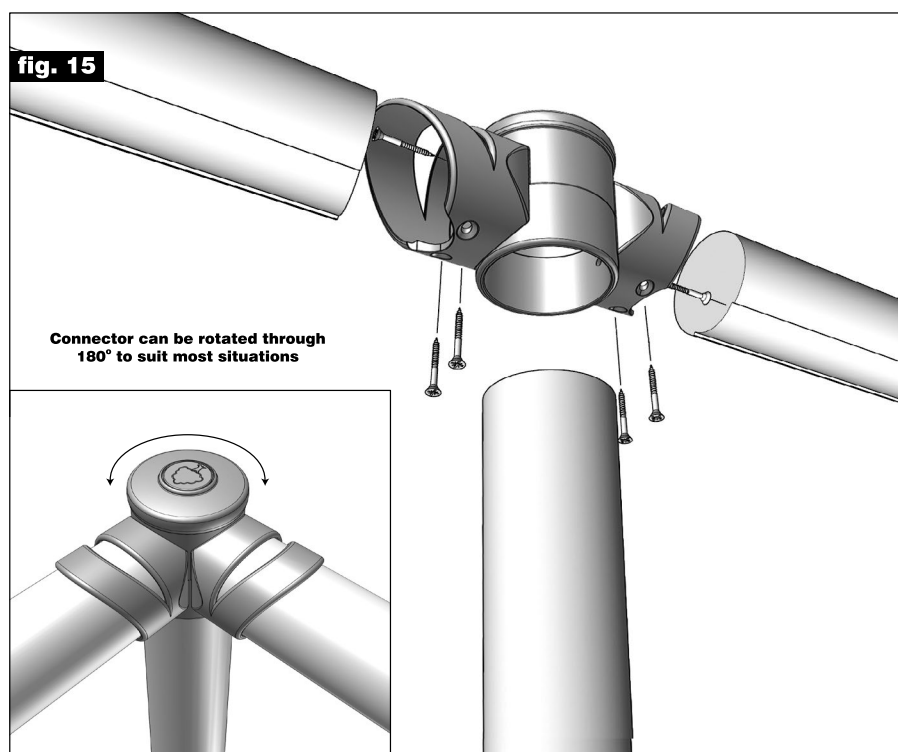


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Intermediate Landing Handrail Connector for Intermediate Landing Newels

If your staircase requires an Intermediate Newel on the landing for added strength, then our Intermediate Landing Handrail Connector (AXEVILHC) has been designed for this instance, as it will allow an Evolution Newel Post to be connected to the Handrail. You can also rotate it any angle between 90° to 180° to suit a multitude of configurations.

First your intermediate Landing Newel must be installed, using the dimensions from the earlier instructions for the Top Newel.



Now measure the handrail lengths you require from newel to newel (including connector) and cut to suit. Slide both parts of the Intermediate Landing Handrail Connector onto the newel and position correctly their orientation, then secure using the two 30mm screws provided. Finally slide the handrails in the connectors secure using the 30mm screws provided (fig. 15).

We have a team of dedicated technical and expert advisors that will offer you the support you need with any planning and technical advice through your project from start to finish.